

REMARKS

In response to the Final Office Action of February 25, 2010, Applicants have amended claim 4, and canceled claims 12-14, which when considered with the following remarks, is deemed to place the present application in condition for allowance. Favorable consideration of all pending claims is respectfully requested.

Claims 4, 5, and 9 remain rejected and claims 12-14 are newly rejected under 35 U.S.C. §102(a) as allegedly anticipated by INZE et al. "I" (WO 03/085115, published October 16, 2003) for reasons of record. The same respective claims remain rejected or are newly rejected under 35 U.S.C. §102(e) as allegedly anticipated by Inze et al. II (US Patent Application Publication 2005/0221290, published October 6, 2005) for reasons already of record.

INZE et al. I and INZE et al. II are relied upon for allegedly teaching a promoter which functions in a plant cell for the expression of polynucleotides recited by Applicants' claim 4. The references are also relied upon for allegedly teaching the improved growth characteristics of Applicants' claims 4 and 12, even though both references are silent with respect to whether their methods are for improving plant growth characteristics. According to the Examiner, the improved growth characteristics of the preamble of claim 4, from which claim 12 depends, are intended uses and thus non-limiting.

Applicants had previously argued that although a nucleotide sequence comprising Applicants' SEQ ID NO:1 is set forth in SEQ ID NO: 61 of both INZE et al. I and INZE et al. II, there is no indication in either INZE et al. reference, as to what reading frame in SEQ ID NO:61 is relevant to the presently claimed GRUBX protein. In SEQ ID NO:61 of both INZE et al. I and INZE et al. II, there are several potential ATG start codons and several potential TAA, TAG or TGA stop codons. Since neither INZE et al. reference provides a protein sequence consisting of the amino acid sequence of Applicants' SEQ ID NO:2, there would have been no way for one skilled in the art having either INZE et al. I or INZE et al. II in hand, to have known how to make a construct comprising a promoter which functions in a plant cell operably linked to an isolated nucleic acid molecule encoding a GRUBX protein, said protein consisting of SEQ ID NO:2. The relevant start and stop codons of SEQ ID NO:61 which correlate to the

translated protein having the amino acid sequence of Applicants' SEQ ID NO:2 are first provided by Applicants' disclosure in Applicants' SEQ ID NO:1, and not the cited references.

In the Final Office Action, the Examiner has taken the position that such previously submitted arguments are not persuasive because the start and stop codons of SEQ ID NO:61 are inherent to the sequences, and because knowledge of the genetic code was well established in the art as of the filing date of the present application.

Applicants do not agree with the position taken by the Examiner, but submit that in view of the present amendments to claim 4, the subject matter of the claims is distinguished from both INZE I and INZE II in any event.

The Examiner has indicated that amendment of the body of claim 4 to indicate that a plant having increased seed yield is selected, would overcome the rejection(s) and directs the Applicant to pages 40-43 of the specification to support such an amendment. Alternatively, the examiner has indicated that amendment of claim 4 to indicate that the promoter is a seed-preferred promoter would also overcome the rejection.

By this amendment, claim 4 presently recites a step for selecting plants with improved growth characteristics selected from: increased yield, increased biomass, increased total above ground area, increased plant height, increased number of tillers, increased number of first panicles, increased number of second panicles, increased total number of seeds, increased number of filled seeds, increased total seed yield per plant, increased seed biomass, increased seed size, increased seed volume, increased harvest index, increased Thousand Kernel Weight (TKW), altered cycling time and/or altered growth curve.

Support for the amendment to claim 4 may be found throughout the specification (WO 2005/059147), e.g., page 32, lines 1-12. Further, pages 40-43 of the specification indicate that both vegetative growth measurements and seed related parameter measurements were taken by Applicants. Such measurements were used to obtain a harvest index of plants. Page 41, penultimate line of the specification, defines harvest index as: "the ratio between the total seed yield and the above ground area (mm²),

multiplied by a factor 10⁶." Under 4.1 "Vegetative Growth Measurements" on page 41 of the application, Applicants disclose that colored digital images of each of ten transgenic and ten control plants, were taken from at least 6 different angles.

Page 42, lines 1-7 of the specification disclose:

Plant aboveground area was determined by counting the total number of pixels of the digital images from aboveground plant parts discriminated from the background. This value was averaged for the pictures taken on the same time point from the different angles and was converted to a physical surface value in square mm by calibration. Experiments showed that the aboveground plant area measured this way correlates with the biomass of plant parts above ground.

Page 42, first full paragraph, and page 44, claim 1 as originally filed, provide further support for a selection step as presently claimed. It is therefore respectfully submitted that there is ample support in the specification for the amendments to claim 4.

It is further respectfully submitted that *pro arguendo*, even if INZE I and INZE II teach constructs comprising a promoter which functions in a plant cell for expression of SEQ ID NO:61 resulting in the amino acid sequence of Applicants' SEQ ID NO:2 (a point on which Applicants do not agree), there is no teaching for the selection of improved growth characteristics as presently claimed. That is, neither INZE I nor INZE II teach a method for improving plant growth characteristics by introducing and expressing in a plant a construct comprising a promoter which functions in a plant cell operably linked to an isolated nucleic acid molecule encoding a GRUBX protein, said GRUBX protein consisting of the amino acid sequence set forth in SEQ ID NO:2, followed by selection of a plant exhibiting an improved growth characteristic selected from the group consisting of increased yield, increased biomass, increased total above ground area, increased plant height, increased number of tillers, increased number of first panicles, increased number of second panicles, increased total number of seeds, increased number of filled seeds, increased total seed yield per plant, increased seed biomass, increased seed size, increased seed volume, increased harvest index, and increased Thousand Kernel Weight (TKW), all relative to corresponding wild type plants.

The present claims are therefore distinguished over the cited prior art and withdrawal of the rejection of claims 4, 5, and 9 under 35 U.S.C. §102(a) is therefore respectfully requested.

In view of the foregoing remarks and amendments to the claims, it is firmly believed that the present application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted



Ann R. Pokalsky
Registration No.: 34,697

Dilworth & Barrese, LLP
Attorney for Applicants
1000 Woodbury Road, Suite 405
Woodbury, New York 11797
Tel. No. (516) 228-8484
Fax No. (516) 228-8516
ARP/ml